



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/087,042 | 02/28/2002 | W. T. Gurnee | 383-9U1 | 6477 |
| 570 | 7590 | 10/12/2006 | EXAMINER | |
| AKIN GUMP STRAUSS HAUER & FELD L.L.P. ONE COMMERCE SQUARE 2005 MARKET STREET, SUITE 2200 PHILADELPHIA, PA 19103 | | | LEWIS, AARON J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3993 | |

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|----------------------------|------------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/087,042 | GURNEE ET AL. | |
| | Examiner AARON J. LEWIS | Art Unit 3093 3743 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 12 July 2006.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 and 35-37 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 2-5,10,11,16-20 and 35-37 is/are allowed.

6) Claim(s) 1,6-9 and 12-15 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ . |

Art Unit: 3003 3143

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reneau ('859) in view of Lake ('180), Smith ('339) and Lindley ('938).

As to claim 1, Reneau discloses a hyperbaric oxygen therapy system comprising: a pressure vessel (C) containing a gas, the vessel being capable of accommodating a patient (fig.1); an oxygen breathing line (40h,i,j) at least partially within the pressure vessel, the oxygen breathing line delivering a supply of substantially pure oxygen (40a) to the patient within the pressure vessel; an oxygen concentration measurement apparatus (A,30a,30b) for monitoring a concentration of oxygen in the gas, the oxygen analyzer displaying an indication (col.3, lines 63-64; col.4, lines 2-3) of oxygen concentration based on the electrical output signal, and a pressure/ventilation control apparatus (S,20c) for controlling the pressure of the gas in the vessel.

The differences between Reneau and claim 1 are the oxygen concentration measurement apparatus including an oxygen analyzer coupled to one of an electronic and an electro-chemical oxygen concentration sensing unit that provides an electrical output signal representative of the concentration of oxygen in the gas to the oxygen analyzer; the oxygen analyzer including a user adjustable high alarm threshold and one

Art Unit: ~~3003~~ 3743

of an audible and visual alarm, the respective one of the audible and visual alarm being activated when the concentration of oxygen in the gas is greater than or equal to the high alarm threshold; and an environmental control apparatus for controlling the temperature of the gas in the vessel.

Lake teaches an environmental control apparatus (33 and page 3, lines 15-38) for controlling the temperature of the gas in the vessel (1) for the purpose of maintaining the temperature of chamber within predetermined limits (page 3, lines 30-38).

It would have been obvious to modify the hyperbaric chamber of Reneau to include an environmental control apparatus for controlling the temperature of the gas in the vessel because it would have provided a means for maintaining the temperature of the chamber within predetermined limits as taught by Lake.

Smith teaches the oxygen concentration measurement apparatus including an oxygen analyzer (43) coupled to one of an electronic (col.2, lines 38-62) and an electro-chemical oxygen concentration sensing unit that provides an electrical signal representative of the concentration of oxygen in the gas to the oxygen analyzer, the analyzer displaying (65) an indication of oxygen concentration based on the electrical output signal for the purpose of automatically maintaining a preset oxygen concentration within the atmosphere surrounding a patient (col.1, lines 11-14).

Inasmuch as Reneau discloses the use of one of many types of oxygen analyzers (col.3, lines 60-61) it would have been obvious to further modify the oxygen monitoring means of Reneau to include any well known type of oxygen monitoring means including one being coupled to one of an electronic and an electro-chemical oxygen concentration

Art Unit: 30933743

sensing unit that provides an electrical output signal representative of the concentration of oxygen in the gas to the oxygen analyzer as taught by Smith.

Lindley (col.5, lines 44-47) teaches a user adjustable high alarm threshold and one of an audible and visual alarm (172), the respective one of the audible and visual alarm being activated when the concentration of oxygen in the gas is greater than or equal to the high alarm threshold for the purpose of warning medical personnel of changes in the actual oxygen concentration relative to the preset oxygen concentration within an oxygen treatment vessel.

It would have been obvious to modify the oxygen treatment vessel of Reneau to include one of an audible and visual alarm because it would have warned medical personnel of changes in the actual oxygen concentration relative to the preset oxygen concentration within an oxygen treatment vessel as taught by Lindley.

3. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reneau in view of Lake ('180) and Smith ('339) as applied to claim 1 above, and further in view of Gamow ('678).

The difference between Reneau as modified by Lake and Smith and claim 6 is a gas compressor, the compressor including an intake, an outtake, and at least one silencer connected to at least one of the intake and the outtake.

Gamow teaches a gas compressor (9) as a source of compressed air in combination with a source (13) of compressed oxygen in a pressurized tank. Any compressor including that of Gamow includes an intake and outtake. Official notice is taken that mufflers are commonly used on compressors to quiet their operation.

It would have been obvious to substitute the air compressor of Gamow for the source of compressed air in Reneau as mere substitution of one source of compressed air for another with no new or unobvious results accruing.

As to claims 7-9, as set forth above, official notice is taken that mufflers are commonly used on compressors to quiet their operation and as such it would have been obvious to modify any such muffler of the compressor of Gamow to incorporate well known sound reducing materials including HPDE as its operative material to quiet its operation thereby making the device more desirable to work with.

4. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamow ('678) in view of Lake ('180) and Smith ('339) Marine Air Systems Operations Manual for Passport II.

The difference between Gamow and claim 12 is a heat pump external to the pressure chamber in fluid communication with a heat exchanger by a conduit having an exchange fluid therein and a temperature sensor in fluid communication with the gas in the vessel which provides an output representative of a temperature of the gas; and a digital temperature controller having an adjustable set point which receives the output of the temperature sensor and provides a control signal to the heat pump for adjusting the temperature of the exchange fluid to thereby maintain the temperature of the gas within a predetermined range of the set point, the temperature controller being configured to display a representation of the temperature sensed by the temperature sensor and the adjustable set point, the digital temperature controller having a control algorithm that controls the control signal, the control algorithm being based on at least of time

proportioning control, error proportioning control, proportional control, integral control and derivative control.

Lake teaches an environmental control apparatus (33 and page 3, lines 15-38) for controlling the temperature of the gas in the vessel (1) for the purpose of maintaining the temperature of chamber within predetermined limits (page 3, lines 30-38).

It would have been obvious to modify the hyperbaric chamber of Gamow to include an environmental control apparatus for controlling the temperature of the gas in the vessel because it would have provided a means for maintaining the temperature of the chamber within predetermined limits as taught by Lake. While Gamow as modified by Lake does not expressly teach a heat pump for heating and cooling the breathable air, the heating/cooling tank (33 of Lake) does include a fluid (i.e. hot water or ammonia) from which heat is gained or lost by the breathable gas; consequently, it would have been obvious to further modify the heating/cooling tank of Lake to employ a heat pump as one well known means for heating and cooling a fluid for another.

Marine Air Systems Operations Manual for Passport II teaches a digital temperature controller (pages 5,6,12-13) teaches a temperature controller (75 and col.3, lines 35-41) being configured to display (pages 5,6) a representation of the temperature sensed by the temperature sensor and the adjustable set point for the purpose of providing automatic thermostatic control of the temperature of the environment surrounding the patient. The Passport II of Marine Air Systems is disclosed as being used as a conventional thermostat. It is submitted that conventional thermostats include both a

Art Unit: 3903 3743

means for presetting a desired temperature and a means for displaying the actual temperature of the environment being controlled.

It would have been obvious to further modify the temperature control device of Lake to employ any well known type of temperature control including a digital temperature controller because it would have provided more precise control of the temperature within the vessel of Gamow as taught by Marine Air Systems Passport II.

As to claim 13, Gamow discloses a carbon dioxide adsorbing material (10) for removing carbon dioxide from the gas.

As to claims 14 and 15, Gamow discloses a blower (11) that is fluid communication with a source of pressurized gas within the pressure vessel. The particular type of blower can be arrived at through mere routine obvious experimentation and observation with no criticality seen in any particular type of blower including an injection blower. That is, the blower of Gamow would achieve the same results as an injection blower.

Allowable Subject Matter

5. Claims 2-5,10,11,16-20,35-37 are allowed.

Response to Arguments

6. Applicant's arguments filed 07/21/2006 have been fully considered but they are not persuasive. Applicant's arguments regarding claim 1 including the amendments thereto are not persuasive because Smith teaches a vacuum pump that draws oxygen from all areas which includes a plurality of separate locations within pressure vessel (25) through analyzer (43). While the conduit (41) is physically attached to one location on pressure vessel (25), any oxygen that is drawn from the pressure vessel will come

Art Unit: ~~3993~~ 3743

from any location(s) within the vessel. Thus the claim language does not structurally distinguish the arrangement in Smith.

Applicant's arguments regarding claim 12 including the amendments thereto are not persuasive because the Marine Air Systems Operation Manual for Passport II teaches both heating and/or cooling while in an automatic mode of operation (see page 9 under the heading Modes of Operation). That is, the Marine Air Systems Operation Manual for Passport II teaches a digital controller that causes the heat pump to either heat or cool the gas to within 2 degrees in dependence upon the temperature sensed by the thermostat relative to a preset and adjustable set point.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

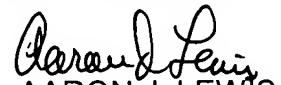
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: ~~3993~~ 3743

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON J. LEWIS whose telephone number is (571) 272-4795. The examiner can normally be reached on 9:30AM-6:00PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, HENRY A. BENNETT can be reached on (571) 272-4791. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


AARON J. LEWIS
Primary Examiner
Art Unit 3993

Aaron J. Lewis
September 30, 2006